

IN THE CLAIMS:

1. (currently amended) A method for receiving an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the method comprising:

receiving an IP packet via an IP network, having a variable transmission delay;

accessing a timestamp carried in a RTP packet;

accessing an index field in the RTP packet header;

linking the timestamp with a program clock reference (PCR) MPEG2TS carried in the RTP packet payload by using the index to point to a PCR MPEG2TS randomly positioned in the RTP packet payload; and,

using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS.

2. (original) The method of claim 1 wherein accessing the timestamp carried in the RTP packet includes accessing a timestamp having a resolution of greater than 500 nanoseconds (ns); and,

wherein using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS, includes reducing the jitter to less than 500 ns.

3. (original) The method of claim 1 wherein accessing a timestamp carried in the RTP packet includes accessing a RTP timestamp carried in a RTP packet header.

4. (original) The method of claim 3 wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet payload includes linking the RTP timestamp with a solitary PCR MPEG2TS carried in the RTP packet payload.

5-6. canceled

7. (currently amended) The method of claim [[6]] 1 wherein accessing an index field in the RTP packet header includes accessing a timestamp packet index field; and,

wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet payload includes using the timestamp packet index to link an RTP timestamp to a PCR MPEG2TS randomly positioned in the RTP packet payload.

8. (currently amended) The method of claim [[6]] 1 wherein accessing an index field in the RTP packet header includes accessing a PCR MPEG2TS index field;

wherein accessing a timestamp carried in the RTP packet includes accessing a PCR MPEG2TS timestamp carried in a RTP packet header; and,

wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet payload includes using the PCR MPEG2TS index to point to a PCR MPEG2TS randomly positioned in the RTP packet payload.

9-10. canceled

11. (original) The method of claim 1 wherein using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS, includes using the timestamp to determine the target transmission time of the PCR MPEG2TS.

12. (currently amended) A method for transmitting an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the method comprising:

encapsulating[[]] a program clock reference (PCR) MPEG2TS in the RTP packet payload;
encapsulating a timestamp randomly positioned in a RTP packet payload, referencing the PCR MPEG2TS target transmission time;
encapsulating the RTP packet in an IP packet;
encapsulating an index in the RTP packet header pointing to the position of the MPEG2TS in the RTP packet payload; and,
transmitting the IP packet via an IP network.

13. (original) The method of claim 12 wherein encapsulating a timestamp in a RTP packet, referencing the PCR MPEG2TS, includes encapsulating a timestamp having a resolution of greater than 500 nanoseconds (ns).

14. (original) The method of claim 12 wherein encapsulating a timestamp in a RTP packet includes encapsulating an RTP timestamp in the RTP packet header.

15. (original) The method of claim 14 wherein encapsulating a PCR MPEG2TS in the RTP packet payload includes encapsulating a solitary PCR MPEG2TS in the RTP packet payload.

16-17. canceled

18. (currently amended) The method of claim [[17]] 12 wherein encapsulating a timestamp in a RTP packet includes encapsulating an RTP timestamp in the RTP packet header; and, wherein encapsulating an index in the RTP packet header includes encapsulating a timestamp packet index in the RTP packet header.

19. (currently amended) The method of claim [[17]] 12 wherein encapsulating a timestamp in the RTP packet includes encapsulating a PCR MPEG2TS timestamp; and, wherein encapsulating an index in the RTP packet header includes encapsulating a PCR MPEG2TS index field in the RTP packet header.

20-21. canceled

22. (currently amended) A system for receiving an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the system comprising:

a receiver having an IP network interface to receive an IP packet via an IP network, having a variable transmission delay, and an interface to supply a RTP packet; and,

a de-jitter module having an interface to accept the RTP packet, the de-jitter module accessing a timestamp packet index field carried in a RTP packet header and uses the timestamp packet index to point to a PCR MPEG2TS randomly positioned in the RTP packet payload, linking the timestamp with a program clock reference (PCR) MPEG2TS carried in the RTP packet payload, and using the timestamp to eliminate variable transmission delay jitter, the de-jitter module having an interface to supply the PCR MPEG2TS with a constant delay.

23. (original) The system of claim 22 wherein the de-jitter module accesses a timestamp having a resolution of greater than 500 nanoseconds (ns) and supplies a PCR MPEG2TS with a jitter of less than 500 ns.

24. (original) The system of claim 22 wherein the de-jitter module accesses a RTP timestamp carried in a RTP packet header.

25. (original) The system of claim 24 wherein the de-jitter module links the RTP timestamp with a solitary PCR MPEG2TS carried in the RTP packet payload.

26-27. canceled

28. (original) The system of claim 22 wherein the de-jitter module accesses a PCR MPEG2TS index field in the RTP packet header, accesses a PCR MPEG2TS timestamp carried in a RTP packet header, uses the PCR MPEG2TS index to point to a PCR MPEG2TS randomly positioned in the RTP packet payload, and uses the PCR MPEG2TS timestamp to eliminate variable transmission delay jitter.

29-30. canceled

31. (original) The method of claim 22 wherein the de-jitter module uses the timestamp to determine the target transmission time of the PCR MPEG2TS.

32. (currently amended) A system for transmitting an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the system comprising:

an encapsulation module having an interface to accept a program clock reference (PCR) MPEG2TS randomly positioned in a RTP packet payload, the encapsulating module encapsulating the PCR MPEG2TS in a RTP packet payload, encapsulating a timestamp packet index in [[a]] the RTP packet header referencing the PCR MPEG2TS target transmission time, encapsulating the RTP packet in an IP packet, the timestamp packet index pointing to the position of the MPEG2TS in the RTP packet payload, and supplying the IP packet at an interface; and,

a transmitter having an interface to accept the IP packet and an interface to transmit the IP packet via an IP network.

33. (original) The system of claim 32 wherein the encapsulation module encapsulates a timestamp having a resolution of greater than 500 nanoseconds (ns).

34. (original) The system of claim 32 wherein the encapsulation module encapsulates an RTP timestamp in the RTP packet header.

35. (original) The system of claim 34 wherein the encapsulation module encapsulates a solitary PCR MPEG2TS in the RTP packet payload.

36-37. canceled

38. (original) The system of claim 32 wherein the encapsulation module encapsulates a PCR MPEG2TS randomly positioned in the RTP packet payload, encapsulates a PCR MPEG2TS timestamp, and encapsulates a PCR MPEG2TS index field in the RTP packet header pointing to the position of the MPEG2TS in the RTP packet payload.

39-40. canceled

41. (new) A method for receiving an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the method comprising:

- receiving an IP packet via an IP network, having a variable transmission delay;
- accessing a local timestamp field in an MPEG2TS delay compensation data structure, where the MPEG2TS delay compensation data structure is carried in the RTP packet payload and includes the local timestamp and a corresponding PCR MPEG2TS;
- linking the timestamp with a program clock reference (PCR) MPEG2TS carried in the RTP packet payload;
- using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS; and,
- wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet includes linking the local timestamp to the corresponding PCR MPEG2TS in the MPEG2TS delay compensation data structure.

42. (new) The method of claim 41 wherein accessing a local timestamp field in an MPEG2TS delay compensation data structure includes accessing a local timestamp field in each of a plurality of MPEG2TS delay compensation data structures carried in the RTP packet payload, where the MPEG2TS delay compensation data structures include an MPEG2TS selected from the group including PCR and non-PCR MPEG2TSs;

wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet payload additionally includes linking local timestamps with corresponding non-PCR MPEG2TSs; and,

wherein using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS, additionally includes using the local timestamps to eliminate jitter associated with corresponding non-PCR MPEG2TSs.

43. (new) A method for transmitting an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol (UDP)/Internet protocol (IP) packet, the method comprising:

encapsulating a program clock reference (PCR) MPEG2TS in an MPEG2TS delay compensation structure, carried in the RTP packet payload;

encapsulating a timestamp in a RTP packet, referencing the PCR MPEG2TS target transmission time;

encapsulating the RTP packet in an IP packet;

transmitting the IP packet via an IP network; and,

wherein encapsulating a timestamp in the RTP packet includes encapsulating a local timestamp in the MPEG2TS delay compensation data structure, referencing the co-encapsulated PCR MPEG2TS.

44. (new) The method of claim 20 wherein encapsulating the PCR MPEG2TS in an MPEG2TS delay compensation structure includes encapsulating a plurality of MPEG2TSs, selected from the group

including PCR MPEG2TSs and a non-PCR MPEG2TSs, in a
corresponding plurality of MPEG2TS delay compensation structures; and,
wherein encapsulating a local timestamp field in the
MPEG2TS delay compensation data structure includes encapsulating a
local timestamp field in each MPEG2TS delay compensation structure,
referencing a co-encapsulated MPEG2TS.